SPECIFIED GAS REPORTING STANDARD

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1 Definitions

1(1) In this Standard,

(a) "Act" means the *Climate Change and Emissions Management Act*.

(b) "biomass combustion CO_2 emissions " means direct emissions of CO_2

(i) from the combustion of non-fossilized organic material, or

(ii) from the combustion of gases recovered from decomposition of organic material.

(c) "CH_4" means methane.

(d) "CO_2" means carbon dioxide.

(e) "CO_2e" means the 100 year global warming potential of an individual specified gas expressed in terms of equivalency to CO_2 set out in the *1995 Summary for Policy Makers - A report of Working Group I of the Intergovernmental Panel on Climate Change* as published *by the Intergovernmental Panel on Climate Change*.

(f) "direct emissions" means release of specified gases from sources actually located at a facility and does not include geologically injected CO_2.

(g) "electronic media" includes diskette or CD-ROM.

(h) "fugitive emissions" means direct emissions from the production, processing transmission, storage, and use of fossil fuel excluding emissions from fossil fuel combustion where the energy produced is used to power an engine or other machinery or provide heat for sale or use and includes, without limitation, flaring of natural gases at oil and gas production facilities.

(i) "geologically injected CO_2" means CO_2 captured at a facility and injected into geological formations.

(j) "HFCs" means hydrofluorocarbons.

(k) "industrial process emissions" means direct emissions from industrial processes involving a chemical reaction, where the primary purpose of the industrial process is not energy production.

(l) "N_2O" means nitrous oxide.

(m) "other emissions" means direct emissions other than biomass combustion CO_2, fugitive, industrial process, or stationary fuel combustion emissions and includes emissions from vehicles that are integral to production processes at a facility.

(n) "PFCs" means perfluorocarbons.

(o) "Regulation" means the *Specified Gas Reporting Regulation*.

(p) "SF_6" means sulphur hexafluoride.

(q) "stationary fuel combustion emissions" means direct emissions resulting from non-vehicular combustion of fossil or biomass fuel for the purpose of producing energy but does not include biomass combustion CO_2 emissions.

(2) Where this Standard uses a term defined in the Act or the Regulation, the term has the meaning set out in the Act or Regulation.

2 SPECIFIED GAS REPORTING THRESHOLD

2(1) The threshold level for submission of a specified gas report is the release of 100000 tonnes of CO_2e based on the sum of direct emissions of CO_2, CH_4 and N_2O.

(2) Biomass combustion CO_2 emissions shall not be included in the determination required by subsection 1.

(3) The determination of direct emissions required by subsection 1 shall be made using the following equation:

$$= \left(E_{CO_2} \times GWP_{CO_2}\right) + \left(E_{CH_4} \times GWP_{CH_4}\right) + \left(E_{N_2O} \times GWP_{N_2O}\right)$$

Where,

E_{CO2} is the total of direct emissions of CO_2, excepting biomass combustion CO_2 emissions, in the calendar year, measured in tonnes;

GWP_{CO2} is the global warming potential of CO_2, 1;

E_{CH4} is the total of direct emissions of CH_4 in the calendar year, measured in tonnes;

GWP_{CH4} is the global warming potential of CH_4, 21;

E_{N2O} is the total of direct emissions of N_2O, in the calendar year, measured in tonnes; and,

GWP_{N2O} is the global warming potential of N_2O, 310.

3 SPECIFIED GAS REPORT FILING

3(1) A specified gas reporter shall submit the specified gas report required by the Regulation by e-mail sent to sgr@gov.ab.ca or by submitting the report on electronic media to:

Director
Environmental Monitoring and Evaluation Branch
Environmental Assurance
Alberta Environment
11th floor, Oxbridge Place
9820 - 106th Street
Edmonton, AB
T5K 2J6

(2) A specified gas reporter shall submit the specified gas report so that it is received no later than November 15 in the year that follows the year to which the report relates.

4 SPECIFIED GAS REPORTER AND FACILITY INFORMATION

4(1) The specified gas report shall include the following information about the specified gas reporter and the specified gas reporter's facility:

(a) the specified gas reporter's legal and trade name, telephone number and address;

(b) the two and four digit North American Industry Classification (NAICS) codes and the six digit NAICS Canada code for the facility;

(c) the National Pollutant Release Inventory (NPRI) identification number for the facility, if any;

(d) the facility name, mailing address and facility location specified by legal land description; and company name, where applicable;

(e) if the specified gas reporter is a corporation or otherwise not an individual, the name, position, address and telephone number of the specified gas reporter's official responsible for the report;

(f) if the report is prepared by someone other than the specified gas reporter, the name, address and telephone number of the person or firm who prepared the report; and,

(g) if the facility is the subject of an *Environmental Protection and Enhancement Act* approval or registration, the number of that approval or registration and the name of the approval or registration holder.

5 MANDATORY SPECIFIED GAS EMISSION INFORMATION

5(1) The specified gas report shall contain the following information in respect of emissions of specified gases at the specified gas reporter's facility for the previous calendar year:

(a) the amount, in tonnes, of each of the specified gases listed in column 2 of Table 1 for each direct emissions type applicable to the facility listed in column 1 of Table 1;

(b) the total of the direct emissions, based on the information required by subsection (a), expressed as CO_2e tonnes, not including biomass combustion CO_2 emissions;

(c) the amount, in tonnes, of biomass combustion CO_2 emissions;

(d) the amount, in tonnes, of geologically injected CO_2;

(e) the location of geologically injected CO_2 specified by legal land description;

(f) listing of methodology type used in calculating or determining the amounts required by subsections (a), (c) and (d) from the following:

(i) monitoring/direct measurement;

(ii) mass balance;

(iii) emission factors; or

(iv) engineering estimate;

and,

(g) citation of methodology reference publications used in calculating or determining the amounts required by subsections (a), (c) and (d).

Table 1

Column 1 - Direct Emissions Type	Column 2 - Specified Gas Type
Stationary Fuel Combustion Emissions	CO_2, CH_4, N_2O
Industrial Process Emissions	CO_2, CH_4, N_2O
Fugitive Emissions	CO_2, CH_4, N_2O
Other Emissions	CO_2, CH_4, N_2O
Biomass Combustion CO_2 Emissions	CO_2

(2) The information required by subsection 1(a), (c) and (d) shall be provided in the following summary tabular form:

	Specified Gases (tonnes)		
	CO_2	CH_4	N_2O
Stationary Fuel Combustion			
Industrial Process			
Fugitive			
Other			
Biomass Combustion CO_2			
Geologically Injected CO_2			

6 ADDITIONAL SPECIFIED GAS EMISSION INFORMATION

6(1) The specified gas report may contain the following additional information in respect of emissions of specified gases at the specified gas reporter's facility for the previous calendar year:

(a) the amount, in tonnes, of biological sequestration of CO_2 which the specified gas reporter has assigned to the benefit of a facility's operations;

(b) the amount, in tonnes, of indirect emissions of CO_2, CH_4 and N_2O associated with the generation of imported/purchased electricity, steam or heat for the facility;

(c) a calculation of net specified gas emissions, in tonnes of CO_2e; based on the direct emissions total reported pursuant to section 5(1)(b) less offsets or emission reduction equivalences;

(d) a calculation of the specified gas intensity expressed in tonnes, and associated calculation;

(e) actual equations, calculations, emission factors, and emission estimation models used to provide the information required by sections 5(1)(a), (c) and (d); and

(f) the amount of HFCs, PFCs, and SF_6 released and captured at the facility, aggregated and combined, and expressed as tonnes of CO_2e.

(2) Where a specified gas reporter provides a calculation of net specified gas emissions, it shall also include a description of the amount and nature of any offset or emission reduction equivalency used in the calculation.

7 METHODOLOGY

7(1) Subject to subsection (8), a specified gas reporter shall calculate or determine:

(a) the amount of stationary fuel combustion, industrial process, fugitive, other, and biomass CO_2 combustion emissions; and

(b) the amount of geologically injected CO_2

where required by sections 2 and 5 by using one or more of the applicable methodologies, emission factors, equations and calculations set out in subsections (2) to (7).

(2) The following methodologies, emission factors, equations and calculations shall be used in calculating or determining stationary fuel combustion emissions:

(a) *1998 Fossil Fuel and Derivative Factors*, published by Environment Canada, as amended or replaced from time to time;

(b) *CH_4 and VOC Emissions from the Canadian Upstream Oil and Gas Industry – Volume 3*, published by the Canadian Association of Petroleum Producers (CAPP) and Atlus Engineering Ltd, as amended or replaced from time to time;

(c) *Emission Factors and Uncertainties for CH_4 and N_2O from Fuel Combustion*, published by SGA Energy Limited, as amended or replaced from time to time;

(d) *Calculating Greenhouse Gas Emissions [#2003-0003]*, published by Canadian Association of Petroleum Producers (CAPP) and Atlus Engineering Ltd, as amended or replaced from time to time;

(e) *Emission Inventory Improvement Program: EIIP Document Series Volume VIII Estimating Greenhouse Gases*, published by the published by United States Environmental Protection Agency, as amended or replaced from time to time;

(f) *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories,* published by Intergovernmental Panel on Climate Change (IPCC)/Organization for Economic Cooperation and Development (OECD)/International Energy Agency (IEA), as amended or replaced from time to time;

(g) *Canada's Greenhouse Gas Inventory 1990 – 2000,* published by Environment Canada, as amended or replaced from time to time;

(h) *Compilation of Air Pollutant Emission Factors (AP-42),* published by the United States Environmental Protection Agency, as amended or replaced from time to time;

(i) *Greenhouse Gas Emission Estimation Methodologies for the Oil Sands / Heavy Oil Upgrader Industry – DRAFT,* published by Suncor Energy Inc., Syncrude Canada Limited, Shell Canada Limited and Husky Energy, as amended or replaced from time to time;

(j) *Compendium of Greenhouse Gas Emissions Estimations Methodologies for the Oil and Gas Industry,* published by the American Petroleum Institute, as amended or replaced from time to time;

(k) *Calculation Tools for Estimating Greenhouse Gas Emissions from Pulp and Paper Mills,* published by The International Council of Forest and Paper Associations (ICFPA), as amended or replaced from time to time;

(l) *Calculation Tools for Estimating Greenhouse Gas Emissions from Wood Products Manufacturing Facilities,* published by the National Council for Air and Stream Improvement (NCASI), Inc., as amended or replaced from time to time; and

(m) *CO_2 Emissions Calculation Protocol for the Lime Industry – DRAFT,* published by National Lime Association/Canadian Lime Institute, as amended or replaced from time to time.

(3) The following methodologies, emission factors, equations and calculations shall be used in calculating or determining industrial process emissions:

(a) *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories,* published by Intergovernmental Panel on Climate Change (IPCC)/Organization for Economic Cooperation and Development (OECD)/International Energy Agency (IEA), as amended or replaced from time to time;

(b) *The Cement Protocol: CO_2 Emission Monitoring and Reporting Protocol for the Cement Industry,* published by WBCSD Working Group Cement, as amended or replaced from time to time;

(c) *Direct Emissions from the Cement Sector,* published by United States Environmental Protection Agency, Climate Leaders, as amended or replaced from time to time;

(d) *CO_2 Emissions Calculation Protocol for the Lime Industry – DRAFT,* published by National Lime Association/Canadian Lime Institute, as amended or replaced from time to time;

(e) *Compendium of Greenhouse Gas Emissions Estimations Methodologies for the Oil and Gas Industry,* published by the American Petroleum Institute, as amended or replaced from time to time;

(f) *Canada's Greenhouse Gas Inventory 1990 – 2000,* published by Environment Canada, as amended or replaced from time to time;

(g) *CH_4 and VOC Emissions from the Canadian Upstream Oil and Gas Industry – Volume 3*, published by the Canadian Association of Petroleum Producers (CAPP) and Atlus Engineering Ltd, as amended or replaced from time to time;

(h) *Calculation Tools for Estimating Greenhouse Gas Emissions from Pulp and Paper Mills,* published by The International Council of Forest and Paper Associations (ICFPA), as amended or replaced from time to time;

(i) *Calculation Tools for Estimating Greenhouse Gas Emissions from Wood Products Manufacturing Facilities,* published by the National Council for Air and Stream Improvement (NCASI), Inc., as amended or replaced from time to time; and

(j) *Greenhouse Gas Emission Estimation Methodologies for the Oil Sands / Heavy Oil Upgrader Industry – DRAFT,* published by Suncor Energy Inc., Syncrude Canada Limited, Shell Canada Limited and Husky Energy, as amended or replaced from time to time.

(4) The following methodologies, emission factors, equations and calculations shall be used in calculating or determining fugitive emissions:

(a) *Calculating Greenhouse Gas Emissions [#2003-0003],* published by Canadian Association of Petroleum Producers (CAPP) and Atlus Engineering Ltd, as amended or replaced from time to time;

(b) *Compendium of Greenhouse Gas Emissions Estimations Methodologies for the Oil and Gas Industry,* published by the American Petroleum Institute, as amended or replaced from time to time;

(c) *Options for Reducing Methane and VOC Emissions from Upstream Oil and Gas Operations,* published by Canadian Association of Petroleum Producers (CAPP), as amended or replaced from time to time;

(d) *Investigation of Condenser Efficiency for HAP Control from Glycol Dehydrator Reboiler Vent Streams: Analysis of Data from the EPA Questionnaire and GRI's Condenser Monitoring Program,* published by the Gas Research Institute (GRI), as amended or replaced from time to time;

(e) *GRI-GLYCalc Glycol Dehydrator Emission Estimation Software,* published by the Gas Research Institute (GRI), as amended or replaced from time to time;

(f) Canada's Greenhouse Gas Inventory 1990 – 2000, published by Environment Canada, as amended or replaced from time to time; and

(g) Greenhouse Gas Emission Estimation Methodologies for the Oil Sands / Heavy Oil Upgrader Industry – DRAFT, published by Suncor Energy Inc., Syncrude Canada Limited, Shell Canada Limited and Husky Energy, as amended or replaced from time to time.

(5) The following methodologies, emission factors, equations and calculations shall be used in calculating or determining other emissions:

(a) *Canada's Greenhouse Gas Inventory 1990 – 2000,* published by Environment Canada, as amended or replaced from time to time;

(b) *Calculation Tools for Estimating Greenhouse Gas Emissions from Pulp and Paper Mills,* published by The International Council of Forest and Paper Associations (ICFPA), as amended or replaced from time to time;

(c) *Calculation Tools for Estimating Greenhouse Gas Emissions from Wood Products Manufacturing Facilities,* published by the National Council for Air and Stream Improvement (NCASI), Inc., as amended or replaced from time to time; and

(d) *Greenhouse Gas Emission Estimation Methodologies for the Oil Sands / Heavy Oil Upgrader Industry – DRAFT,* published by Suncor Energy Inc., Syncrude Canada Limited, Shell Canada Limited and Husky Energy, as amended or replaced from time to time.

(6) The following methodologies, emission factors, equations and calculations shall be used in calculating or determining biomass combustion CO_2 emissions:

(a) *Canada's Greenhouse Gas Inventory 1990 – 2000,* published by Environment Canada, as amended or replaced from time to time;

(b) *Calculation Tools for Estimating Greenhouse Gas Emissions from Pulp and Paper Mills*, published by The International Council of Forest and Paper Associations (ICFPA), as amended or replaced from time to time;

(c) *Calculation Tools for Estimating Greenhouse Gas Emissions from Wood Products Manufacturing Facilities*, published by the National Council for Air and Stream Improvement (NCASI), Inc., as amended or replaced from time to time; and

(d) *Greenhouse Gas Emission Estimation Methodologies for the Oil Sands / Heavy Oil Upgrader Industry – DRAFT*, published by Suncor Energy Inc., Syncrude Canada Limited, Shell Canada Limited and Husky Energy, as amended or replaced from time to time.

(7) The amount of geologically injected CO_2 shall be reported in accordance with estimates reported to the Alberta Energy and Utilities Board's Petroleum Registry.

(8) In the event that an applicable or appropriate methodology, emission factor, equation or calculation is not set out in subsections (2) to (7), the specified gas reporter shall use another methodology that is:

(a) widely accepted by the industry to which the facility belongs; or

(b) consistent with the guidelines approved for use by the United Nations Framework Convention on Climate Change (UNFCCC) for the Preparation of National Greenhouse Gas Emission Inventories by Annex 1Parties (Decision 18/CP.8), and the annex to that decision contained in FCCC/CP/2002/8.

8 CERTIFICATION

8(1) Subject to subsections (2) and (3), the submission of the report shall be accompanied by a completed statement of certification in the following form:

Statement of Certification

Name of Certifier: _____

Position of Certifier: _____

Mailing Address: _____

Province: _____

Country: _____

Postal Code: _____

Telephone Number: _____

Name of Facility: _____

Environmental Protection and Enhancement Act approval or registration number (if any): _____

Facility NPRI number (if any): _____

This is to certify that _____

(Name of Specified Gas Reporter)

for the period of _____ (Date) to _____ (Date) :

- Supplied information contained in the Specified Gas report is accurate and complete to the best of my knowledge.

Qualifying statements regarding the information supplied in the Specified Gas Report:

_____

Signature of Certifier

_____

Date of Certification

(2) The completed statement of certification required by subsection (1) may be submitted in writing separately from e-mail or electronic media submission of the report by attaching the certification to a paper copy of the report delivered or facsimile transmitted to:

Director
Environmental Monitoring and Evaluation Branch
Environmental Assurance
Alberta Environment
11th floor, Oxbridge Place
9820 - 106th Street
Edmonton, AB
T5K 2J6

Facsimile: (780) 427-7958

(3) Where a completed statement of certification is submitted in accordance with subsection (2), the certification must be received by the Director by no later than the deadline for submission of the report to which the statement of certification relates.